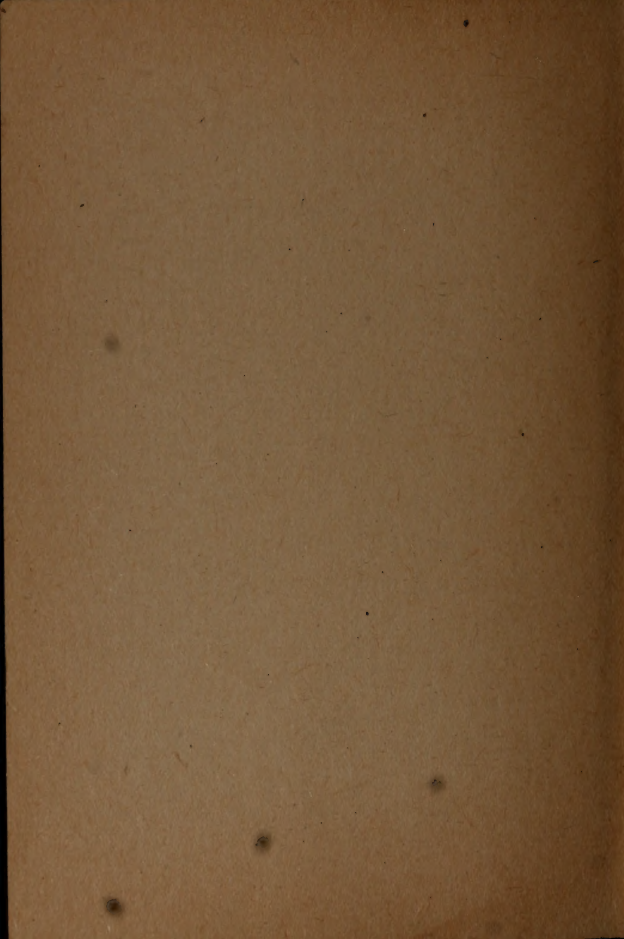


**LITTLE BLUE BOOK NO. 1073**  
**Edited by E. Haldeman-Julius**

# **How to Paint and Finish Woodwork**

**H. E. Enders**

**Instructor in Manual Arts**



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**HALDEMAN-JULIUS COMPANY**  
**GIRARD, KANSAS**

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## HOW TO PAINT AND FINISH WOODWORK

*Staining and Filling.*—As long as interior woodwork and furniture are made from wood, just so long will there be frequent occasions when the enterprising home-owner will want to do some staining, and perhaps a little filling, in a laudable effort to keep up his home or to improve it.

Prior to the actual finishing a word must be said regarding the preparation of the work that is to be finished. It very often happens that an excellent woodworker will complain that he simply cannot get good results finishing his work. Why? Many times the cause can be traced to the fact that the wood has not been properly treated. If a pair of shoes were blackened before removing the mud and dirt, would the result be good? No more should one be careless about the cleaning and preparing of a surface which is to be stained or otherwise finished.

The surface should be so smooth that not a mark or scratch remains on the wood, for if it does it is bound to show through the finish.

The surface, after it has been planed so that the mill marks and other dents are removed, should be scraped with a hand scraper removing any marks or dents that the plane could not get. All traces of glue must be removed as glue will always show on the finished surface and may thus spoil an otherwise perfect piece of work.

After scraping the work, all small holes that appear on the surface should be filled with cabinetmaker's cement, which is a good deal like putty, but which sets sooner and forms a tougher body. When dry its color is that of natural wood.

Sand-papering is the next process. This should be done with a fairly coarse piece of sandpaper, being careful to sand with the grain of the wood, as any scratch or mar across the grain of the wood will show on the finished surface.

If water aniline stains are to be used the wood should next be sponged. The raising of the grain opens the pores of the wood, and greatly facilitates the penetration of the stain. This is a vital point to remember—a good stain is in the wood, not on it. Were the pores not opened up, the stain would have a tendency to lie on the top, and when the stained coat is



sanded a portion of the stain would be removed—due to the sandpaper's cutting through the raised fibers—showing white specks, and ruining the job. Sponging and sanding removes all these coarse fibers, and obviates this trouble. The next operation after sponging is sanding again. A medium grade of paper should be used for this. The wood, being sanded smooth, should be carefully dusted. Use a brush for this that will dig into the pores and really remove the sanding dust. Stain and filler cannot function properly if the pores are full of dust.

The function of the stains is to change the color and to enhance the grain and texture of the wood, or in other words to beautify the wood and make it fit the surroundings and use to which it is to be put.

Stains may be divided into three classes: water anilines, spirit, and oil stains.

Oil stains are suitable for such finishes as Golden Oak, Early English, Weathered Oak. They do not penetrate the wood very deeply. They can be readily shellacked.

Spirit stains are not desirable because of their fading and because of the muddy effects produced. They are also difficult to apply without showing streaks or laps.

Water anilines have none of the above disadvantages, and are not as expensive as the price would indicate, owing to the fact that American made dyes are generally stronger, requiring less aniline to a gallon of water, and that only a few ounces of these anilines are required.

As to the actual process of staining, speed is valuable for it will do away with spotting and the showing of laps. The stain should be applied with a brush, although cotton waste or cheese cloth can be used on small pieces. Each part should be gone over but once. When the wood is stained and before it is dry it should be rubbed clean with a piece of waste or cloth. In this case rubbing does not mean to bear down and use pressure, but to go over the surface lightly, thus blending the stained surface, especially where lapping was necessary. This will also remove the surplus stain and prevent spotting. As said before, lapping should be avoided when possible, but if unavoidable and the result is a dark spot, a clean piece of waste dampened with turpentine, water, or alcohol (depending upon the kind of stain), when gone over the parts affected will help somewhat. This resort, however, should not be relied upon. Having stained the piece of furniture you



should place it where it will not be interfered with, as finger marks will show. It should be kept in mind that the same stain will not produce exactly the same shade on all wood. The porous woods will absorb more stain than hard woods or close grain woods, and consequently the color effect will be darker on the former. Hard woods with pronounced grain or markings will also take stains in a different manner from woods showing no definite grain or figure. The reason is simply that the stain penetrates more deeply into the spongy portions of the wood, so that the harder parts of the wood, or in other words the grain, will show lighter. Thus an open-grained or a porous wood will be of a darker shade than a close-grained wood, even when the same stain is used.

*Brushes for staining* do not need to be of the finest quality; in fact, one costing from 15 to 20 cents is plenty good enough. Two brushes are needed: one  $\frac{1}{2}$ -inch round brush and one  $1\frac{1}{2}$ -inch flat brush.

Unless the brush is used every day, it should be thoroughly cleaned immediately after every using and laid away in a clean place. To clean it, use the same kind of fluid with which your

stain is mixed, water for water stain, turpentine for oil stain, and alcohol for spirit stain.

*Filling* is an all-important operation which many people are apt to slight, but if a piece of work is not filled or is imperfectly done trouble is sure to arise later. The object of filling is to give a perfectly level and non-absorbent basis for varnish covering or any other finish, and it is easily conceivable that if a surface is to have that mirror-like uniformity which is so beautiful to look upon, it is only with the greatest care that the foundation for it can be properly laid.

To apply the filler to the wood is a very easy matter. It should be applied with a brush (or with waste) across the grain. The main point is to be careful that there is no part of the work slighted. After the filler has set for twenty minutes or half an hour, the color will begin to change from a wet glossy appearance to a dull whitish appearance, giving it a flat look. When all the wet spots have disappeared the filler is ready for the rubbing off. For this purpose, shavings, excelsior, sea grass, burlap or hemp may be used. Rubbing should never be done with the grain as this will remove the filler from the pores of the wood, defeating the main object of filling. But the

surplus filler should be removed by rubbing across the grain, and if the filler then comes out of the pores, it is because the filler has not had time to set properly. There is danger of this as the operator is often afraid that it will set too hard and so will rub off before it has set. There can be no fixed time limit, as some fillers may have more turpentine in them and thus not take so long to dry, but in any case the filler should not stand over an hour, or it will be almost impossible to remove it. In removing the filler care should be taken that no filler is left in the corners as this will make a poor looking job. After filling a hard, porous wood or staining a close grain wood it is ready for its next coat.

*Shellac, Varnish and Wax.*—The three finishing materials mentioned above are all used in giving household interior trim and furniture a lustrous, transparent, protective coating which does not conceal the grain or pattern beneath.

*Shellac* is a spirit varnish and is the most common and most useful of the spirit varnishes.

It has been my experience and that of others who have done finishing that pure shellac is the cheapest in the end, although the first cost

may be a little more. Beware of low-priced shellacs.

The main object of shellac is to close the pores of the wood thoroughly by sealing them hermetically, and to prevent the sinking in of the coats of varnish used in finishing. Unless the pores are so sealed, it will be impossible to obtain good results. This does not mean that if a place is missed in the filling operation that the shellac will remedy the defect, for the shellac coat would sink in the pores at these places and leave a rough surface. Thus the finish would always be full of blemishes. It is important that the filler be perfectly dry before any shellac is applied. As the filler in drying contracts at a different rate from the shellac, it will crack in fine longitudinal lines. It is therefore necessary that the filler be dry before the shellac is applied.

Applying shellac calls for care and neatness. The shellac itself should be kept clean. It should be protected from dust as well as from evaporation by placing it in an air-tight, covered vessel of some sort. Shellac is applied with a brush. The size of the surface you are shellacking will determine the size of brush you are to use—if a broad surface you should use a broad brush and vice versa.

Shellac dries by evaporation and therefore sets very fast. If you go over the surface a second time, before thoroughly dry, it will double up and get rough.

If the surface that is shellacked should become milky it may mean that too much shellac was applied or the mixture was too thick. If this is so, the shellac must all be removed. This can be done by taking a piece of cloth and pouring on the surface a little alcohol, then rubbing briskly with the cloth until you have removed the coat, whereupon a new one may be applied.

To apply a second coat of shellac, as is sometimes required in order to build up a good body, first lightly smooth off the roughness of the first coat by using No. 2-0 sandpaper. Then dust the surface, and apply the second coat.

Shellac is prepared by dissolving some of the lac in alcohol. For this reason never shellac over a spirit stain as the alcohol will dissolve the stain and make the surface spotted.

The shellac brush should never be taken out of the fluid as it will become hard and useless. To clean a shellac brush use alcohol.

*Varnish.*—The operation which brings out

the beauty of the wood to its highest degree is varnishing. Its function, other than looks, is to cover the wood with a hard transparent coating that is non-porous and impervious to moisture.

Varnish is made from various vegetable gums, linseed oil, turpentine, and naphtha. The more gums they contain the harder the varnish and the more lustrous, but less durable, it is. However most varnishes are more durable than spirit varnishes.

Varnishes are made in various grades, and each grade is adapted to some particular use. You should always make it a point to secure the kind of varnish best adapted to the work you have in hand.

Spar varnish contains more oil, because it is intended for outside surfaces, exposed to the weather. It is very tough, elastic, and fairly hard. Water will not affect it, and it will stand great extremes in temperature without injury. It is very good for outside doors, porches, automobiles and almost any other article that is exposed to the elements.

Varnish brushes should be of first-class quality, with the hairs long and pliable and set in some tough composition so they will not pull out.



To do a good job at varnishing is no doubt the hardest process in wood finishing. This, however, should not discourage one, for with a little care and practice a fairly good looking piece of work can be done. The room should be as free from dust as possible. The floor should be clean and dampened to keep down the dust when walking around. A draft in the room would chill the varnished surface and spoil the job.

Before the actual process of varnishing, the wood work should be carefully dusted with a cloth, cloth being recommended because a brush or duster will simply stir up the dust, which will only settle again—if not before the varnishing has taken place, afterward—which of course, makes the work much more difficult. The temperature of the room in which the varnishing is to be done should be from 70 to 80 degrees.

The varnish should be applied with a full brush, rubbing it out crossways and finishing by laying it off with the grain. This is known as following the varnish. Too little varnish is as great a defect as too much—one should learn to judge the right amount.

The time required for varnish to dry is from 10 to 12 hours, although it may take 48 hours

in some cases where the warmth and air circulation in the room are not satisfactory. Testing for hardness may be done with the thumb—if an imprint is left the varnish coat is not sufficiently dry for subsequent operations.

When the first coat becomes dry, another coat may be laid over the first one, if more than one coat is desired. First, however, in order to secure as smooth a finish as possible, the first coat must be sandpapered with No. 4-0 sandpaper. Moisten the back of the sandpaper and rub lightly until the luster has been removed and all dust particles have been leveled. Dust off the work thoroughly, and apply the second coat.

If this is the last coat to be put on it may be left in a bright gloss, or may be rubbed dull with pumice stone and rubbing oil. To do this, dip a piece of felt about 2 or 3 inches long into rubbing oil and sprinkle a little No. FF pumice stone on it. Then rub the varnished surface. Wipe off the surface with a cloth and if the pitted surface has disappeared and the surface is level and smooth, the process is finished. If not it must be continued.

It is often desirable to know whether varnish will repel water. There is a very simple test that will determine this. Varnish a piece of

wood and let it dry well, then put a wet sponge on it over night. If it is just as bright and clear in the morning it is good varnish as far as durability is concerned. If it turns white after it has dried out, the water has dissolved part of it and such a varnish is not the right kind to use on woodwork about a house because very few places do not get wet once in a while.

Cleaning the brushes, as soon as used, is the only way to keep them in good condition. Turpentine is the best solvent to use. When clean they should be put away free from dust.

*Wax.*—Polishing with wax is an old process, having been used before varnish and other finishes were known, and even though numerous other forms of polishes have been brought forth it is still used.

Wax is a combination of bee's wax and turpentine, in varying degrees of solutions, for various kinds of surfaces. It should be applied with a piece of cheese cloth or cotton waste, and allowed to dry for from fifteen to thirty minutes. When dry the waxed surface should be polished with a piece of clean soft cloth.

*Furniture Polish and Its Use.*—By this I mean the care and cleaning of the furniture that is already in the home and not that which

is in process of being finished in the shop. In many homes, furniture polishing is undertaken but once a year, and that is done while cleaning house in the spring time. Furniture, however, should be polished at least once a month.

Most of the furniture polishes that are on the market today are of very little value. They are recommended by the manufacturer for cleaning purposes, but the fact is that they do more harm to the furniture than good.

The prime requisities of a good furniture polish are: (1) it must contain a good cleaning agent to clean the varnished surface of its accumulated grime from hands and atmosphere; (2) it should contain materials capable of feeding the varnish with the proper vegetable oils, to prolong its life and delay cracking and silking; (3) it should have a good polishing agent in order to bring the varnish to a surface that is hard, bright, free from greasiness and any tendency to collect dust, (4) it should be an emulsion in order that all materials may reach the varnish collectively.

If the furniture needs cleaning, beyond the use of the furniture polish recommended herein, it should be washed with water containing a little soap suds. When all grease and dust is

washed off, it should be wiped dry with a piece of clean cheese cloth. When the furniture is thoroughly dry take another clean piece of cheese cloth and apply a little light oil to it. Then go over the entire surface of the furniture, rubbing fast and with a little pressure applied to the cloth. Furniture that does not need the above washing, may be polished immediately by dipping the cheese cloth in clean cold water, wringing it dry, then applying the oil to it and rubbing.

No furniture finish will last long or maintain its brilliancy and luster unless the varnish be kept clean and polished frequently, so that the surface will get enough oil to prevent premature hardening and drying. When a varnish film becomes completely oxidized or hardened it immediately begins to crack, and loses its luster. The purpose of oil is to delay this final exudation, and fill the pores of the varnish.

*Enamels and Enamel Finishes.*—Due to durability and for sanitary reasons, enamels are used quite extensively. For this reason the interior woodwork of kitchens, bathrooms, bedrooms, and hospitals are finished with enamel. Many toys are also finished with enamel.

The most important constituent in enamel

is the varnish. Upon this material depends its durability, and in fact the entire life of the enamel depends upon the varnish. The varnish used must not react with the pigments—it must be pale enough to avoid discoloring. It must permit sanding, rubbing and polishing, for a good enamel finish requires many coats. In order that the enamel may dry properly, it is necessary that driers be added. Great care must be taken in selecting the drier as some driers turn the white enamel to a pink color.

Enamel should be applied to furniture or interior woodwork in the following way to gain the best results. After the wood has been properly sandpapered it should be given a ground coat, by going over it with shellac or flat interior white paint. Allow this coat to dry for two days if paint is used, and one day if shellac is used. Sandpaper lightly with No. 00 sandpaper. The surface should then be dusted with a rag which has been dampened slightly with turpentine—just enough to pick up the dust instead of spreading it in the air. Apply another coat of the ground paint and let dry the same length of time as the first coat. Sandpaper the same as first coat. Apply a coat of enamel for the third coat. The



enamel should not be brushed very much, but applied freely and with a clean brush. This coat should be allowed to dry from three to four days, depending upon the condition of the room in which the enameling is being done. Sandpaper enough to smooth the surface and flow on a coat of enamel as it comes from the can. Allow this coat to dry five days, and rub the surface with pumice stone and water, if a dull, smooth surface is desired. Enamel applied directly to the wood without a ground coat will often peel off.

*Inside and Outside Painting.*—Painting appears to many people to be the simplest work in the world. After a little practice it really does become easy to apply paint. But to be able to select the right kind of paint for the job, and to apply it so that a good-looking and enduring coat will be the result, requires a little more study.

*White Lead.*—There are many materials that may be used as pigments but white lead is the natural paint pigment and the most widely used. It is the only white pigment known, which, when mixed alone with linseed oil to the proper consistency, yields a perfect paint.

White lead may be obtained in powder form or as a paste, the latter being more common.

As white lead is often adulterated it is advisable to test it. This is easily done by placing a small piece of it in a hollow, scooped out of a piece of charcoal, and directing the flame of a gas lamp upon it by means of a blow-pipe. If the material is pure it will reduce to metallic lead in a few minutes—if otherwise, a complete reduction will not take place, and the adulterant will remain as a residue.

White lead is sometimes adulterated with such substances as sublimed lead, zinc, and lithophone. They are all cheaper than white lead and therefore are used in prepared paints. Sublimed lead is made directly from the ores containing lead and zinc. Lithophone cannot be used with lead as the lead will turn it black.

If one is mixing his own paint, the color is important. The following list of colors are used in the trade today and may be secured from any local dealer in paints: Prussian blue, chrome yellow and yellow ochre, venetian red, vermilion, tuscan, and India red and, in brown, the siennas and umber, and dropblack and lampblack.

*Linseed Oil.*—Paint is made up of pigment, usually white lead, and an oil which is known as the vehicle. Linseed oil is the only proper

vehicle. There are many substitutes but none that compares with linseed oil.

The boiled oil (made by heating raw oil to a temperature of about 250° F. and adding a small proportion of some drier) will make a more glossy paint, and if a flat finish is desired it is necessary to tone it down with turpentine. The raw oil will penetrate the wood farther than the boiled oil. The raw oil should be used in the priming coat.

*Driers.*—A drier is a chemical agent which causes oxidation in the paint. There is such a thing as using too much drier in the paint. Not more than five per cent should be added to a gallon of paint.

Most cheap driers contain rosin but a good drier is free from rosin. Driers of any kind should not be added to mixed paints or paint mixed in boiled oil. The manufacturer has added the proper amount.

Good driers are made by dissolving manganese and lead compounds in hot linseed oil. It is necessary to thin this mixture with turpentine or benzine. Japan is the most common drier, although turpentine is used. Turpentine is used as a thinner and is much more effective than the same volume of oil. It should be added to the paint, after the pig-

ment is properly mixed with the oil. If added before it may prevent the oil and pigment from properly uniting. This is not true of driers but driers should be added proportionately to the oil and mixed with oil. Turpentine is used for a thinner of paints, as a solvent for oil soluble stains, with paste fillers as a medium for spreading the paste.

Where one cannot get paint that is recommended he should mix his own paint. Many painters mix their own paint, not because much money is saved by so doing, but because their reputation depends upon the kind of work they do, and they will not take chances with ready mixed paint.

*Mixing and Preparing the Priming Coat.*—Although the priming coat is covered up it is nevertheless an important one. Some people think that anything will do for the priming coat since it will be covered up. The fact is that the priming coat is the most important one applied to the house. A paint which never dries properly should not be used, because paint applied on top of it will be very apt to check. For an outside priming coat, use one pound of red lead to 9 pounds of white lead, to one pint of raw linseed oil, to 1/16 pint of Japan drier. For an inside priming coat, mix

the same as for outside work, except that you should omit the red lead, using that much more white lead, also using more turpentine in place of the linseed oil.

For an outside second and third coat, use seven times more red lead, with the rest of the materials the same as the outside priming coat. For an inside second and third coat, use half as much turpentine and twice as much white lead as the priming coat.

Pour the oil, a little at a time, on the pigment, and stir with a paddle. When the lumps are all dissolved, slowly add the ground color that you prefer, stir until this is dissolved, then add the drier.

Oil should never be used for thinning paint—oil is used for binding purposes only, for blending together the white lead and ground color. The turpentine is used for the thinning purposes.

*The Various Kinds of Paints.*—Generally speaking, paints may be classified under two heads—namely, Inside and Outside paints.

Inside paints contain more turpentine and less linseed oil. For this reason they dry much faster. There are many different kinds of paints made for inside painting, and one should

therefore be careful to purchase the right paint for the job.

Outside paint contains more linseed oil and less turpentine. For this reason it takes outside paint longer to dry, but the oil gives luster and long life and an able defense against those relentless foes of all outside paint—moisture and sunshine.

*When to Paint Your Home.*—Inside painting or outside painting will depend entirely on the condition of the old paint. Paint serves two purposes—to beautify and to preserve or protect the surface beneath. On the inside the beautifying is the more important; on the outside the protective feature is the more valuable.

Therefore, the time to paint or repaint the interior woodwork will depend upon the color conditions. If it looks shabby or if a different color is desired it is time to repaint.

With exterior work it is a different matter. Here protection against the weather must be provided—for economical reasons, regardless of looks. Outside house painting should be done every two years or at least every third year. This will save money in the long run, and, if practiced, will give you not only a fine look-



ing home but one which will last the longest possible time.

The most important question to the home owner' is the color the house is to be painted. As a rule, a house that is situated in the country, or in the suburbs of a city, should be painted white or a light color. Green or dark colors are too gloomy for houses under trees or surrounded by foliage, although they make very good trimmings for the light-colored paint. Low and rather small dwellings can be made to appear larger by the use of light colors for the body. In cities where one is near factories, the body should be painted a dark color, such as gray or brown. The smoke from the chimneys and the dust from the streets will soon make light colors look muddy if used. Colonial types of homes appear better in the lighter colors, such as white, pale yellow, pearl gray, and cream.

For inside painting, colors should be selected with equal care. As a rule, kitchen walls and ceilings should be painted in a light buff or cream color. They may also be enameled. Bedrooms, walls and ceiling will look pretty if colored in pale blue, pea green, or old rose. Bathrooms should be enameled white, as white suggests cleanliness, and also matches the usual

bathroom fittings in color. Dining-rooms, living-rooms, and halls, if painted, should have their walls and ceilings done in flat colors, with the ceiling a shade lighter in color.

Getting the surface ready or in proper condition for painting, is the most important step, either for inside or outside work.

If repainting the outside of the house, secure a painter's wire brush and go over the entire surface of the house, removing all scales and dirt. If a brush cannot be secured a common hand cabinet scraper will do. After the surface has been brushed thoroughly, nail-holes and cracks should be filled with putty. If a new house is to be painted a priming coat should be first applied, or the putty will not stick.

If repainting interior woodwork all grease and dirt must be removed or the paint will not stick. This may be accomplished by using a solution of laundry soap and water. Nail-holes are then filled with putty. Cracks and holes in plastered walls should be filled with plaster cement or plaster filler.

Remember that the kind of work you do in preparing the surface will determine the results you get on the finished job. Paint will fill up very small crevices and indentations in

plaster and wood, but it will not efface large ones.

*Knots and Pitch-Pockets* in lumber are the worst kinds of groundwork for paint unless they are specially treated. Wherever, in new work, you find a knot or streak of pitch, give it a couple of coats of shellac, to seal up the pores and prevent the pitch oozing out when the hot sun comes. Unless you do this the paint will blister and scale off.

Brushes of the right kind are a prime requisite. The bristles should be long, uniform and elastic, firmly set in cement or rubber so that they will not loosen and pull out. A brush 2 inches in diameter or a flat brush 3 or 4 inches wide are the best for doing outside painting. For smaller work, such as painting window-sashes, a regular 1-inch window-sash brush is recommended.

During short interruptions in painting operations it is not necessary to clean out the brush. Just keep it immersed in the paint, bristles at least half covered, or leave it in clear water or turpentine. When going to work again, after the brush has been in turpentine or water, be careful to squeeze out all the liquid you can before dipping it in the paint.

Many people throw away good brushes because they do not know how to take care of them. Brushes should be cleaned immediately after the job is completed. By pouring a little turpentine or kerosene in an old can, you can clean the brush in the liquid, taking it out and wiping it dry with a piece of old cloth. Then repeat operation in clean liquid. Place the brush away with the bristles wrapped in paper.

*Amount of Paint Required for a Given Surface.*—It is impossible to give a rule that will apply in all cases as the amount varies with the kind and thickness of the paint, the kind of wood or other materials to which it is applied, the age of the surface, etc. The following is an approximate rule: Divide the number of square feet of surface by 200. The result will be the number of gallons of liquid paint required to give two coats; or divide by 18 and the result will be the number of pounds of pure ground white lead required to give three coats.

*The Time to Paint* is when the weather is warm and dry, with as few insects flying about as possible, as they are sure to stick in the paint if they ever touch it. From all points of view, the best painting season for outside

work is late spring and early fall. Inside painting, of course, can be done at any time, providing the temperature is kept right—about 70 degrees.

*The time not to paint* is in damp, rainy, foggy, or frosty weather, for the oil will not mix with the water. If the wood is damp, or if water gets into the coat before it dries, a streaky, speckled coating will be the result, and the paint will eventually blister and peel. Therefore allow plenty of time for damp surfaces to dry out before applying paint to them.

*Application of Paints.*—In the morning, paint should be applied to the western and other shady parts of the house. In the afternoon you should paint the east sections. This plan will keep the hot sun off the work and prevents “tears” of paint caused by excessive heat. It also keeps the painter from becoming nauseated from paint fumes.

All trimmings should be done first. Trimmings usually consist of cornice, corner boards, frieze, watertable, window-sash, and casings. Many jobs of painting have been spoiled by the trimming and the whole made very unsightly. As a rule it is of a different color from the body of the house. And should it be left until the rest is done then the paint from above

would drop all over the painted surface below and become spotted.

No rule can be given as to how to paint. Much depends on the kind of wood and the condition that it is in. If painting a new house or new woodwork for the first time the priming should be applied first.

If just repainting start with the second coat. (See the section on mixing outside and inside second and third coats.) Enough time must be allowed for each coat to dry sufficiently. From four days to one week should be allowed between each coat.

*How to Treat Floors.*—Floors may be treated in four ways—with linseed oil, varnish, wax, or paint.

In finishing new floors or painting new floors, the kind of finish or paint to use will be determined largely by the kind of wood used in the floor. If the floors are of softwood they should be painted and if hardwood they may be finished in one of the other three ways.

Hardwood maple floors that are subjected to considerable wear should be oiled with linseed oil. Two coats of raw linseed oil should be applied. Where this finish is desired it should be done in the following way: After the floor has been scraped and sandpapered, heat a little



raw linseed oil—it can be applied better when a little warm. Apply the warm oil to the floor with a brush until the wood is well soaked with it. Allow to dry and apply another coat in the same way. This finish will outwear any other.

Dining-room and living-room floors are generally finished in their natural state. For such finishes varnish or wax is used, varnish being the better of the two, for it will resist water and wax will not.

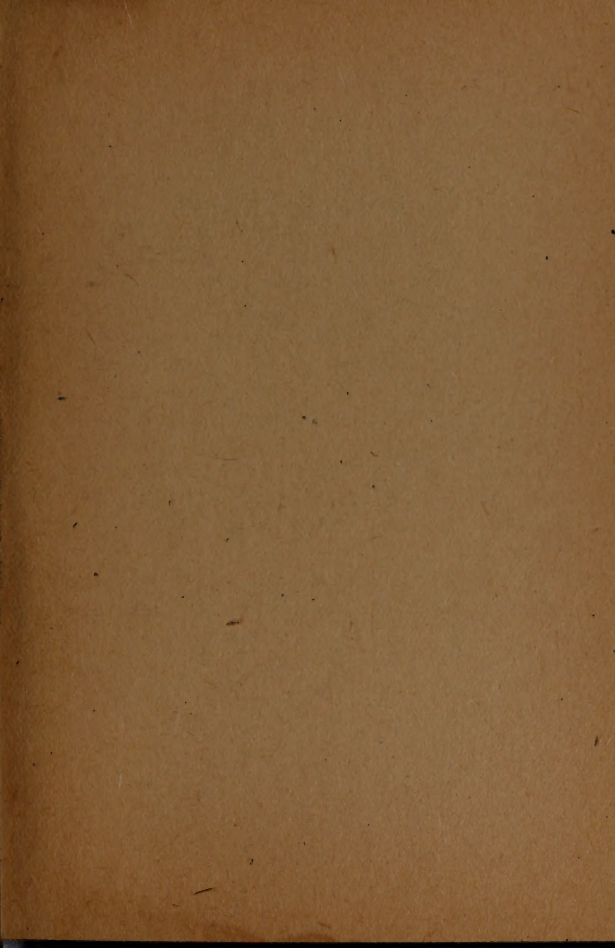
If varnish is desired, a coat of shellac should be first applied to the floor to seal the pores of the wood. Two good coats of a high grade floor varnish should then be applied, allowing from 12 to 16 hours between coats. After the second coat is thoroughly dry it should be sealed with a coat of shellac. Allow this to dry 12 hours, after which cold water should be applied to the floor. A finish of this kind may seem quite expensive, but such a finish will last and is really less expensive in the long run.

Wax should be applied according to the directions on the can that it comes in.

Softwood floors are usually painted. For good work, a hard paint and one that dries quickly is essential. In order to get this, var-

nish is usually added to the paint. However, it must be elastic to give lasting quality. A good floor paint does not require more than twenty-four hours to dry perfectly hard and at the same time be waterproof. We might get the drying quality into the paint by adding turpentine or other driers but the binding and glossy finish would be gone, consequently the paint would be robbed of its wearing qualities. Do not be mistaken and think that by adding "floor paint hardener" that you are bettering the paint. This is nothing more than a cheap rosin varnish loaded to the last degree with driers. No rosin of any kind should be used on any woodwork, least of all on a floor. Nothing but the best varnish should be used in the paint.

If repainting a floor one coat will be enough. On new floors two coats should be applied.





**E. HALDEMAN-JULIUS**  
Editor  
**LITTLE BLUE BOOKS**

